#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization

International Bureau



## 1 | 100 | 10 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

(43) International Publication Date 1 July 2004 (01.07.2004)

**PCT** 

# (10) International Publication Number WO 2004/055378 A1

(51) International Patent Classification<sup>7</sup>: 19/04

F04D 27/02,

(21) International Application Number:

PCT/GB2003/005377

- (22) International Filing Date: 9 December 2003 (09.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0229352.0

17 December 2002 (17.12.2002) GI

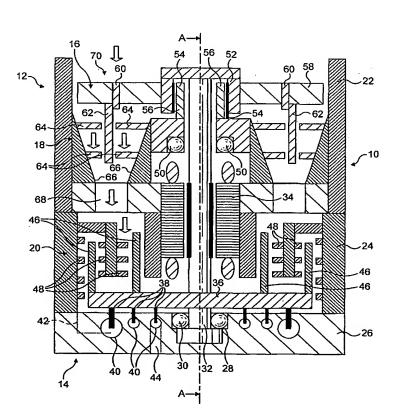
- (71) Applicant (for all designated States except US): THE BOC GROUP PLC [GB/GB]; Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): SCHOFIELD, Nigel,

Paul [GB/GB]; Milton House, 14 Rushams Road, Horsham, West Sussex RH12 2NT (GB).

- (74) Agent: BOOTH, Andrew, Steven; The Boc Group Plc, Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: VACUUM PUMPING ARRANGEMENT AND METHOD OF OPERATING SAME



(57) Abstract: Α vacuum pumping arrangement (10) for controlling pressure in a chamber, the arrangement comprising a molecular pumping mechanism (12) and a backing pumping mechanism (14). The backing pumping mechanism (14) is rotatable by a motor (34), the motor being arranged to rotate the molecular pumping mechanism (12) simultaneously with the backing pumping mechanism (14). Means are provided for controlling the rotational speeds of the backing pumping mechanism and the molecular pumping mechanism.

## WO 2004/055378 A1



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

### Published:

with international search report